Amendments to the Specification:

Please amend the Specification, as follows:

At page 44, please cancel the Abstract in its entirety, and replace the Abstract with the
following new Abstract:

Abstract

An embodiment may include assigning received packets to threads for processing. The
threads may be executed by microengines in a processor. Each respective microengine may
employ respective local event signals and global signaling states. The respective local event
signals may be local to respective threads executed by the respective microengine and may
provide information on whether functions requested by the respective threads have completed.
The global signaling states may permit an executing thread signal state to be broadcast to the
microengines. The threads executed by the microengines may be able to branch based on the
global signaling states, and may maintain thread capability information and port-to-thread
assignments. If a processing exception concerning a particular packet occurs, the particular
packet may be sent to a processor core for further processing. Functionality of the threads may
be determined by microcode loaded via the processor core into the microengines.